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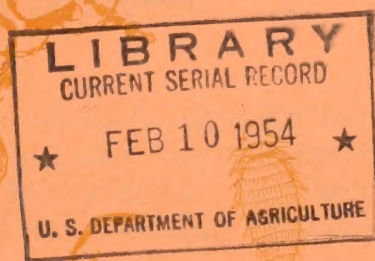
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VOL. 4 No. 5

FEBRUARY 5, 1954

Cooperative
**ECONOMIC INSECT
REPORT**



Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

A DERMESTID (Trogoderma granarium) reported from Arizona for first time. (page 85).

BOLL WEEVIL hibernation survey in Tennessee. (page 83).

Summary of INSECT CONDITIONS - 1953 - in South Carolina (page 86), Mississippi (page 90) and Rhode Island (page 95).

Reports in this issue are for the week ending January 29 unless otherwise designated.

WEATHER BUREAU'S 30-DAY OUTLOOK

*February 1954

The Weather Bureau's 30-day outlook for February calls for temperatures to average above seasonal normals over the western half of the nation but below normal east of the Mississippi. The Northeast is expected to be the area of greatest unseasonable coldness.

Precipitation is expected to exceed normal over the Gulf States and along the Atlantic seaboard, much of it snow from Virginia northward. Subnormal precipitation is indicated over the remainder of the northern half of the nation except for near normal amounts in the Great Lakes Region. In areas not specified about normal amounts are predicted.

*This report released by the Weather Bureau on February 2, 1954.

Weather forecast given here is based on the official 30 day "Resume and outlook, " Published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington, D. C. Price: \$4.80 a year, \$2.40 for six months.

WEATHER FOR THE WEEK ENDING FEBRUARY 2, 1954

The past week's weather was unseasonably warm and dry in most of the Country. Total precipitation for the week exceeded one-half inch only in a few small scattered areas in the Northeast and lower Mississippi Valley, along the north Pacific Coast and in the Columbia River Valley and parts of northern Idaho. Elsewhere precipitation was light, generally less than 0.25 inch, with many points in the Florida Peninsula, middle Atlantic coastal areas, the western Great Plains, and far Southwest reporting only traces or none at all. Very light precipitation during January in most of the area between the Continental Divide and the Mississippi has created a rather urgent need for moisture. Surface soil is too dry for grains in the western portions of the central and lower Great Plains, and water shortages continue in southern Iowa and northern Missouri. However in southern Missouri, water supplies have finally improved, and in the extreme southern portion of the State topsoil is moist enough to plow. Temperatures averaged a few degrees below normal in the extreme north central interior where subzero minima occurred until the last days of the period. Also temperatures averaged 1° to 6° below normal in the Northeast where a cold wave occurred on the 28th and subzero minima were rather general on January 29 and 30 and February 1. Elsewhere temperatures averaged above normal for the week, with the positive departures generally ranging from 2° to 4° in the East and Central Gulf States, 4° to 6° in the central interior, about 8° to 10° in the Rocky Mountain States, and 1° to 3° west of the Cascade and Sierra Nevada Mountains.

The snow cover during the week extended slightly southward in the eastern half of the Country but retreated to northern areas at lower elevations in the far West. Heavy snowfall ranged up to 9 inches (Weather Continued on page 85).

CEREAL AND FORAGE INSECTS

CLOVER MITE (Bryobia praetiosa) - ARIZONA - Heavily infesting alfalfa near ground level in some fields on Yuma Mesa. Appearance earlier than last year for area. Moderate numbers on Bermuda grass along ditches and edges of fields in Yuma. (Ariz. Coop. Rept.).

A THRIPS (Frankliniella occidentalis) - ARIZONA - Very numerous on new growth of alfalfa in Yuma. (Ariz. Coop. Rept.)

LUPINE MAGGOT (Hylemya lupini) - FLORIDA - About 60 percent of lupine plants infested in Gadsden County. Spring-generation flies beginning to emerge. In general, damage not as severe as in 1953 except where larvae attacked very young plants. (Guthrie, Jan. 20).

PEA APHID (Macrosiphum pisi) - ARIZONA - A few gravid females appearing in alfalfa fields in Yuma. (Ariz. Coop. Rept.).

LEAFHOPPERS - ARIZONA - Two to four per sweep in fields of southern variety alfalfa on Yuma Mesa. (Ariz. Coop. Rept.).

WIREWORMS - TEXAS - Heavy on grain and watermelons in San Manuel area. (Griffith).

Correction

A GRAIN MITE (Penthaleus major) Vol. 4, No. 3, p. 45, under TEXAS. Sentence beginning "Decreasing because of rainy weather.." should read as follows: "Decreasing because of rainy weather in Hunt County, but beginning to reappear in a field treated recently in Rockwall County."

FRUIT INSECTS

PUTNAM SCALE (Aspidiotus ancylus) - MARYLAND - Light infestation on cultivated blueberry, Pittsville, Wicomico County, January 20. (Bissell, Harding).

Mexican Fruit Fly Survey: Five Mexican fruit flies, all males, were trapped in five different properties in the Rio Grande Valley area between January 1-15. These findings, the first of the 1953-54 season, indicate that the usual migration of Anastrepha ludens from northeastern Mexico into the citrus groves of the Rio Grande Valley area has now begun, and it is expected that the fruit fly population will build up very rapidly as the season advances. Five fruit flies, 2 females and 3 males, were also taken in traps at Hermosillo, Sonora in northwest Mexico during the period. (Mex. Fr. Fly & Cit. Blackfly Cont. Proj.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - WASHINGTON - Small, snow-covered colonies of adults and nymphs still living on terminals of apple at Pullman, Jan. 15; all dead on Jan. 26, following first two days this season with below 0 temperatures, Jan. 20 and 21. (Johansen).

TRUCK CROP INSECTS

Truck Crop Insect Situation, Lower Rio Grande Valley, Texas: Medium infestation of cabbage loopers on cabbage. Onion thrips heavy on onions and aphids heavy on lettuce in scattered locations. Seedling vegetables have medium infestations of flea beetles, while radishes have medium infestation of turnip aphid in Raymondville area. Seed-corn maggot heavily infesting watermelons in Raymondville area and darkling beetles heavy on this crop in San Perlita area. Leaf miners and cutworms infesting tomato seedlings lightly in Hidalgo County. Cucumber beetles light on several vegetable crops in Mission area. (Griffith).

ONION THRIPS (Thrips tabaci) - TEXAS - Somewhat heavy infestations on onions in Laredo and Winter Garden areas. Several growers have already treated. Infestations increasing in Winter Garden area. (Richardson).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - FLORIDA - Destroying turnips, mostly in garden plots, in Gadsden County area. (May, Jan. 20).

CABBAGE CATERPILLARS - FLORIDA - Imported cabbageworm (Pieris rapae) moderately heavy on cabbage in Gadsden County area; light on collards. Cabbage looper (Trichoplusia ni) also light on collards. (May, Jan. 20). TEXAS - Diamondback moth (Plutella maculipennis) and cabbage looper infestations fairly heavy on cabbage variety plantings at Substation # 19. Control measures necessary. (Richardson).

CABBAGE APHID (Brevicoryne brassicae) - TENNESSEE - Infesting kale, turnip and cabbage in Nashville area. Infestation light but general. Damage negligible. (Scott, Jan. 26). FLORIDA - Moderately heavy on cabbage in Gadsden County area. (May, Jan. 20).

FALSE CHINCH BUG (Nysius ericae) - TEXAS - Heavily infesting various crops in Winter Garden area. Damaging small gardens. Slight damage to clovers. (Richardson).

COTTON INSECTS

Boll Weevil Hibernation Survey, McNairy County, Tennessee, Fall of 1953: Indications are that there will be few boll weevils in Tennessee cotton fields during early growing stages of the crop in 1954 according to fall hibernation counts made in McNairy County. Counts made on 100 samples from 20 fields showed an average of only 31.1 boll weevils per acre in hibernation, fewer than during the two previous years. The average for 1951 was 239.4 weevils per acre and 2,259.9 per acre in 1952. The very small size of the population found in hibernation last fall can be explained by the extremely dry weather that prevailed in the county from July until November 22. Because of this drought, there was very little secondary growth in the cotton fields after the regular growing period ended and, consequently, no squares of food for a large population to develop in, as happened the preceding fall. There were many weevils in the fields during picking. Adults could be found in dried-up bolls that were partly open, stunted, or aborted but that were still on the stalks. These, however, are believed to have starved as there was practically no suitable food in the fields for them. (Morris).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Inspection of surface debris and bolls from standing stalks has been started. First reports on this material indicate a lighter infestation in south Texas counties. In addition to the lighter infestation, the amount of such material is far less than has been the case in the past two or three years. A combination of both of these factors may mean a much lighter initial infestation in these counties this year. So far, most of the material examined in the central and upper portions of the State has been bolls from standing stalks and the survival has been high in this material. A re-check of some of these counties may show a much higher mortality since the severe cold weather. In one instance in Tom Green County where the first killing frost (temperature 30 degrees) occurred on November 9, 100 open bolls were examined on November 16 and 708 full-grown "worms" were found alive, none dead. After a low of 8 degrees on December 24, 100 bolls from the same field were examined on January 8, and 36 "worms" found alive and 245 dead, or 87 percent dead. On January 18, another 100-boll sample was examined and 278 dead and 8 live "worms" found. (PBW Cont. Proj., Jan. 1-15 Rept.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE LICE - UTAH - Injurious abundant on cattle in many parts of the State. (Knowlton). TENNESSEE - Infestations generally light across the State. (Mullet, Jan. 26).

SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus) - TEXAS - Light to medium infestations on cattle in Jack County. (Hulseý).

COMMON CATTLE GRUB (Hypoderma lineatum) - MARYLAND - Forth head of cattle were examined in Calvert County, January 28; 21 of these were infested, with 3 to 18 grubs each. Examinations were made on young and mature animals on 3 farms. (Bissell, Harding).

CHICKEN MITE (Dermanyssus gallinae) - ARIZONA - Abundant in Tucson area on flocks in wire cages. Some insecticides failing to give satisfactory control. (Ariz. Coop. Rept.).

STORED PRODUCT INSECTS

A DERMESTID (Trogoderma granarium) - ARIZONA Found infesting stored grain in a Phoenix flour and feed mill. (Ariz. Coop. Rept.). According to available files, this is the first record for this insect in Arizona.

RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

Large importations of horseradish from Europe recently have resulted in the finding of seven lots totalling 1970 bags infested with a destructive weevil, Baris lepidii Germ. Plant Quarantine Inspectors at New York have found living larvae, pupae, and adults in tunnels in roots from Germany and Poland. No galls were formed as is customary when turnips are infested by related curculionids. Other hosts of B. lepidii include cabbage, cauliflower, pepper grass, rape, watercress, and white mustard. It is not known to occur in the United States. Vacuum fumigation with methyl bromide has been made a condition of entry for all horseradish roots from those countries where Baris lepidii is known to occur. (Ramsay).

MISCELLANEOUS INSECTS

ELM LEAF BEETLE (Galerucella xanthomelaena) - TENNESSEE - Adults infesting many homes in Clarksville area. (Scott, Jan. 26).

Weather Continued

in Iowa, 4 to 10 inches in southern Wisconsin, and up to 6 inches in Michigan. In the northern Great Plains snow depths were appreciably reduced. Heavy snow still covered Washington, with depths ranging from a trace in the extreme southwest to near a foot in the northeastern portion. Heavy snowfall in the western portions of Washington and Oregon at the end of the previous week and the beginning of the past week caused some slight damage: fruit tree limbs were broken, roofs of farm buildings crushed, and power and communication lines were broken. (Summary Supplied by U. S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1953

SOUTH CAROLINA

Reported by W. C. Nettles and
J. H. Cochran

Cotton Insects (Sparks and Fife): Very large numbers of BOLL WEEVILS (Anthonomus grandis) survived the winter of 1952-53. In general, weevil emergence was late with peak being reached third week in June. Due to delay in peak emergence, early-season control applications were not as effective as normal. Infestation was higher and damage greater than in any year since 1950. In eleven experimental fields gains in yields in treated plots over the untreated check plots averaged 487 pounds of seed cotton per acre, ranging from 149 to 997 pounds. This might be considered a fairly accurate estimate of the damage caused by this insect in coastal area of South Carolina. BOLLWORMS (Heliothis spp. et al) were light on cotton throughout the season with fairly heavy infestations in only a few fields in August. Heliothis virescens was more abundant during June and July than H. armigera, while in August the reverse was true. Seventy-five percent of all lepidopterous larvae collected on cotton at Florence during 1953 were bollworms and 23 percent tobacco budworms. Rapid build-up in APHID populations occurred during the season to such an extent that in some cases yields of lint were reduced nearly 50 percent. COTTON APHID (Aphis gossypii) was light in eastern counties throughout the season; however, considerable damage occurred in several counties in the western part of the State. Fairly heavy SPIDER MITE (Tetranychus bimaculatus and T. desertorum) infestations developed during July and August in some areas, causing early defoliation in some fields. Very little THRIPS control was done in the Piedmont counties during the year. COTTON LEAFWORM (Alabama argillacea) was collected first during the season in Dorchester County, July 30. Infestation spread rapidly northward and by latter part of October most fields throughout State were defoliated. Light infestations of A WHITEFLY (Trialeurodes abutilonea) were observed in the Pee Dee area but no economic damage noted.

Tobacco Insects (Allen): TOBACCO BUDWORM (Heliothis virescens), a major pest of tobacco in South Carolina every year, began appearing on field plants around May 10 and was normally abundant during the growing season causing some damage to the top leaves of full-grown plants during the first part of July. TOBACCO HORNWORM (Protoparce sexta), also a major pest every year, began appearing on field plants during the latter part of May and was present throughout the season, but was below normal in abundance. TOBACCO FLEA BEETLE (Epitrix hirtipennis) adults caused considerable damage to newly-set plants during April and May. Later infestations were light except for widely scattered outbreaks. TOBACCO WIREWORM (Conoderus vespertinus) caused unprecedented losses to newly-set plants in Florence County. In a number of instances the damage was so severe that the first planting had to be plowed up and the crop set a second time. GREEN PEACH APHID (Myzus persicae) infestation were general, although light as a rule, throughout the growing season. VEGETABLE WEEVIL (Listroderes costirostris obliquus) adults severely damaged tobacco plants in fields in Horry and Dillon counties. Three or four weevils found about base of plant in many instances, and frequently all but midribs destroyed. Although larvae have been known in South Carolina tobacco plant beds since 1940, this was the first instance, so far as known, of damage to field plants. A few larvae of a species of LOOPER were found feeding on field growing tobacco plants on two farms near Florence on May 22. Most unusual to find loopers feeding on tobacco in this locality. GRASSHOPPERS caused about the usual amount of damage to newly-set plants during the season. SPRINGTAILS were numerous in some tobacco fields in Florence County on March 31 and were thought to be causing some damage.

Cereal and Forage Crop Insects: Some ARMYWORMS (Pseudaletia unipuncta) occurred during mid-May. Considerable FALL ARMYWORM (Laphygma frugiperda) damage occurred to pastures and late-maturing corn. The usual heavy infestations of CORN EARWORM (Heliothis armigera), RICE WEEVIL (Sitophilus oryza) and ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) were present during the fall. MAIZE BILLBUG (Calendra maidis) damage in the Coastal area appears to be increasing and SAND WIREWORM (Horistonotus uhlerii) damage has been reduced to the lowest point in 20 or 30 years. CHINCH BUGS

(Blissus leucopterus) in the lower Piedmont area were more damaging to corn and pastures than for the last 6 or 8 years. SUGARCANE BEETLES (Eutheola rugiceps) found in great numbers on farm at Myrtle Beach May 1. (Kirk). VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) damage to soybeans was moderate to slight. CORN EARWORM damage to soybeans in most instances light. A RICE BEETLE (Dyscinetus trachypygus) affected rice in Colleton County. CLOVER WEEVILS (Hypera meles and H. nigrirostris) appeared to be fully as numerous as previously reported. Observations indicate that severity of infestation is determined by length of time reseeding crimson clover has been grown in the locality. (Johnson). LESSER CORNSTALK BORER (Elasmopalpus lignosellus) was above average in abundance on soybeans, and grain sorghum in many locations. Considerable late-season lodging of soybeans was reported.

Stored Grain Insects: Insects found infesting stored grains were INDIAN-MEAL MOTH (Plodia interpunctella), ANGOUMOIS GRAIN MOTH, RICE WEEVIL, SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis), MEALWORMS, and the CADELLE (Tenebroides mauritanicus). The cadelle seemed to be above normal in abundance.

Turf Insects: Larvae of GREEN JUNE BEETLE (Cotinis nitida) caused damage to golf greens and lawns. A GROUND PEARL identified as probably Margarodes meridionalis damaging centipede lawn grass. Specimens of what appeared to be "ground pearls" were abundant in soil below centipede grass.

Vegetable Insects: Among the important vegetable insects of the year were CABBAGE LOOPER (Trichoplusia ni), IMPORTED CABBAGEWORM (Pieris rapae), and a few DIAMONDBACK MOTH larvae (Plutella maculipennis) on spring cabbage. (Reid, Dean, and Cuthbert). CABBAGE LOOPER and CORN EARWORM infested fall cabbage, TOBACCO HORNWORM damaged fall tomatoes, and LEAF MINERS more abundant on fall beans and cucumbers than usual. WIREWORMS caused considerable damage to Irish potato tubers along the Coast. MEXICAN BEAN BEETLE (Epilachna varivestis) caused moderate damage during the season.

SQUASH BUG (Anasa tristis) caused some damage to watermelons. PICKLEWORM (Diaphania nitidalis) infestations appeared to be below average for the season. TOMATO FRUITWORM (Heliothis armigera) appeared to be light to average for season. SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) at times required control efforts. CORN SAP BEETLES caused more damage to sweet corn ears at Clemson than the corn earworm. (Chamberlin).

Fruit Insects (Cochran): CURCULIO populations for the first brood were at a low level throughout the State. CORN EARWORMS left vetch and damaged peaches in several locations. Peaches: In general, the peach crop was good with very few complaints of insect damage. APHIDS were very light. SCALE INSECTS are almost non-existent in peach orchards. The CURCULIO infestation was light. Only a very few growers suffered any damage from ORIENTAL FRUIT MOTH (Grapholitha molesta). In many of these orchards this insect built up just about the time of harvest, and this was believed to be due to poor timing of the pre-harvest sprays. However, this shows that the potential insect infestation is present and if it is given a chance it will destroy a crop of peaches. There appears to be a reduction in injury caused by LESSER PEACH TREE BORER (Synanthedon pictipes) particularly in parathion-sprayed orchards. Orchards that did not receive summer sprays had the normal heavy infestation of PEACH TREE BORERS during the fall. The apple crop was severely damaged by frost; therefore, the few lucky growers did a better than average job of insect and disease control. The insect populations were very light in these orchards.

Ornamental Insects: CAMELLIA SCALES (several species) less abundant than in many years. (Berly).

Some New Insect Records: GIANT HORNET (Vespa crabro germana) reported in Piedmont area. (Dunaven). WHITE-FRINGED BEETLE (Graphognathus leucoloma) infestation reported September 1 at Wellington in McCormick County. WHITE-FRINGED BEETLES reported in Beaufort County (Berly & Rohwer). Incidental to studies on the Gulf Coast wireworm at Charleston, it was recently found

that a South American wireworm (Conoderus vagus) caused major damage in the Charleston area. (Deen, Reid).

MISSISSIPPI

Reported by R. E. Hutchins

Cereal and Forage Insects: The ENGLISH GRAIN APHID (Macrosiphum granarium) caused some damage to oats in May, and slight damage to oats was caused by a MITE (Penthaleus major) not previously recorded from this State. ARMYWORM (Pseudaletia unipuncta) caused damage to small grains, corn and grasses from January to June, while ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) damaged seed oats in storage. Several infestations of CLOVER MITE (Bryobia praetiosa) were reported, and in one field damage to seed pods were caused by the larva of a WEEVIL (Hypera meleus). Corn was injured by YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli), by CHINCH BUGS (Blissus leucopterus) in eight counties, by SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) in Lawrence County. Corn and Sudan grass were injured in the "Delta" and other parts of the State by LESSER CORNSTALK BORER (Elasmopalpus lignosellus) while CORN EARWORM (Heliothis armigera) damage was reported from Jones and Monroe Counties. The FALL ARMYWORM (Laphygma frugiperda) started attacking corn and grass in the coastal counties in May and spread northward, reaching Lee County in September. In October these insects were reported to be feeding on fall planted oats and on pasture grasses. A PHALAENID (Mocis repanda) fed on grasses in the southern counties. Damage to lespedeza by THREE CORNERED ALFALFA HOPPER (Spissistilus festinus) was reported as wide spread. Sorghum heads were injured by SORGHUM WEBWORM (Celama sorghiella) and by SORGHUM MIDGE (Contarinia sorghicola). Soybeans were injured to some extent by BEAN LEAF BEETLE (Cerotoma trifurcata) and by SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi).

Cotton Insects: COTTON APHID (Aphis gossypii) began to cause damage to cotton plants early, but natural enemies controlled them as usual. Later the aphids appeared in some cotton fields after the natural enemies had been reduced by insecticides. THRIPS began to move into cotton fields from native host plants early in June and control measures were used in some cases. Adult BOLL WEEVILS (Anthonomus grandis) were found in cotton fields the latter part of May and by June 12 as many as 550 weevils per acre were reported in some fields. Later, on late cotton as many as 750 weevils per acre were found. By June 19 counts on early cotton showed infestation at 6 percent to 23 percent. Later, average infestations reported for July 3 was 13.4 percent; July 10, 15.4 percent; July 17, 9.8 percent; July 24, 5.01 percent; July 31, 16.7 percent; August 7, 23.3 percent; August 14, after the first migration the average infestation in Tate County alone was 5.8 percent. Untreated cotton in one case was 30 percent infested. TARNISHED PLANT BUG (Lygus lineolaris) caused some damage late in June, and COTTON FLEAHOPPERS (Psyllus seriatum) were reported to blasting squares in some fields in late June and early July. Eggs and larvae of BOLLWORMS (Heliothis spp.) were reported present the last half of June and in July and caused damage to cotton bolls into September, where not controlled. YELLOW-STRIPED ARMYWORM, and FALL ARMYWORM, were reported to be destroying cotton bolls in Lee County, after destroying grass between the rows. COTTON LEAFWORM (Alabama argillacea) was found in Harrison County late in July, and by September 25 heavy damage to cotton foliage was reported in the central part of the State and further north. SPIDER MITES were first reported on cotton on June 12, and by August 28 infestations had been reported from Harrison, Monroe, and Winston Counties and other areas. WHITE FLIES (Trialeurodes sp.) were reported from Calhoun, and Prentiss Counties. Specimens being heavily parasitized.

Forest and Shade Tree Insects: About the middle of January SAWFLY larvae, (probably Neodiprion abietis) were feeding on pine trees in Jackson County. On January 20 APHIDS reported feeding on pine trees in the same county, as well as A PINE NEEDLE SCALE (Phenacaspis sp.). Late in March colonies of EASTERN TENT CATERPILLAR (Malacosoma americana) were observed feeding on

peach, plum and wild cherry trees in Oktibbeha and Webster Counties. About the same time PALES WEEVIL (Hylobius pales) was reported to be killing small pine trees in Jackson County, and about 3 weeks later also in Montgomery County. Infestations of NANTUCKET PINE MOTH (Rhyacionia frustrana) were reported from Coahoma and Montgomery Counties in April and again in August. Live adults of the BLACK TURPENTINE BEETLE (Dendroctonus terebrans) were received from Jasper County in January, from Covington County in March, from Jackson County in May, from Lowndes County in July, and from Jasper County again in November, where loblolly pine trees were being injured. In November SOUTHERN PINE BEETLE (Dendroctonus frontalis) was reported in small numbers in one locality in Pearl River County. A BARK BEETLE (Ips calligraphus) was reported from Lowndes County in July and from Jackson County in October, while an AMBROSIA BEETLE (Platypus flavicornis) was reported from Jackson County in October and from Jasper County in November. Colaspis pini caused damage to small pine trees in Hancock County in July. Oak shade trees were injured by A SCALE (Lecanium quercifex) in the early spring in Copiah, Forrest, Hinds and Monroe Counties. Later in June and July another scale insect (Kermes pubescens) caused damage to oak trees in Alcorn, Jefferson Davis, Noxubee, and Winston Counties. Early in July reports of defoliation of oak trees in Benton and Marshall Counties by VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) were received. FALL WEBWORM (Hyphantria cunea) larvae were beginning nests at State College on June 5, and defoliation of many trees in the Aberdeen district by July 3. Half of the pecan and persimmon trees in Jones County were reported as defoliated by June 26.

Fruit and Nut Tree Insects: Several important insect enemies of the peach: PLUM CURCULIO (Conotrachelus nenuphar); PEACH TREE BORER (Sanninoidea exitiosa) and the SAN JOSE SCALE (Aspidiotus perniciosus) are seldom reported for the Economic Insect Report. ORIENTAL FRUIT MOTH (Grapholitha molesta) damaged peach twigs in the spring, and the larvae began entering fruit early in July. Late peaches, as well as apple and pear fruit are severely injured by these insects. CITRUS MEALYBUG (Planococcus citri) caused damage to fig trees in Lauderdale County in June, and to magnolia trees in Hinds County in July. Damage

to fig trees that was possibly caused by a species of woolly aphid was reported from Pearl River and Warren Counties. GRAPE FLEA BEETLE (Altica chalybea) injured grape in Harrison County in May. PECAN PHYLLOXERA (Phylloxera devastatrix) was reported from Warren and Wilkinson Counties. Damage by FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata) to recently-set pecan trees was reported from Union County in March, and again in August. Damage by A SHOT HOLE BORER (Xylobiops basilaris) to heavily loaded pecan limbs was reported from Sharkley County in October.

Flower and Shrub Insects: Chrysanthemums were damaged by CHRYSANTHEMUM LACE BUG (Corythucha marmorata) in Oktibbeha and Quitman Counties, and by AN APHID (Rhopalosiphum refomaculata) in Hinds County. A SCALE (Pinnaspis strachani) heavily infested a block of 2000 small hibiscus plants in Jackson County. Damage to mimosa trees by MIMOSA WEBWORM (Homadaula albizziae) from Tate County. This insect had previously been reported from DeSoto and Marshall Counties.

Vegetable Insects: Damage to beans by MEXICAN BEAN BEETLE (Epilachna varivestis) was reported from Harrison County in May; from Oktibbeha and Perry Counties in June; and from Pike County, July. The dry weather of the summer months practically controlled these insects in the central section of the State. Damage to beans by LESSER CORNSTALK BORER was reported from Jefferson Davis County. Heavy damage to cabbage by IMPORTED CABBAGE-WORM (Pieris rapae) was reported from the Aberdeen District. Damage to planted seeds of corn, English peas, squash, and to onion sets by SEED-CORN MAGGOT (Hylemya cilicrura) was reported from Adams and Oktibbeha Counties, and in the Leland district where small spinach plants were also injured by these insects. A large number of adults of Hylemya was reported later in this locality. Damage by COLORADO POTATO BEETLE (Leptinotarsa decemlineata) to potatoes was reported from the Aberdeen district. SQUASH BUG (Anasa tristis) caused damage in Monroe County. STRAWBERRY WEEVIL (Anthonomus signatus) attacked boysenberry plants in Lowndes County. SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) was recently found in two counties north of the

present known infested area. TOMATO FRUITWORM (Heliothis armigera) caused damage to tomato fruits in the Gulfport district in May. VEGETABLE WEEVIL (Listroderes costirostris obliquus) was destroying vegetables in Jones County in March. This insect was also reported from Marion, Scott and Warren Counties in April and June. A WEEVIL previously considered as unimportant, Mesagroicus herricki, destroyed small watermelon plants on several acres of low land in Jackson County.

Insects Affecting Man and Animals: SCREW-WORMS (Callitroga hominivorax) were reported from the southern part of Washington County, with heavy infestations in Warren and the western part of Hinds Counties, with light infestations extending toward the northeast, and a heavy infestation in Tunica County. These insects evidently came from imported animals. In October, the infestations were about the same, and in November a slight increase in numbers of insects in some localities were reported, with decreasing numbers in the "Delta" region. HORN FLY (Siphona irritans) was very numerous in untreated herds, and HOUSE FLY (Musca domestica) very numerous around dairy barns. STRIPED HORSE FLY (Tabanus lineola) was present over most of the "Delta" in October. BLACK HORSE FLY (T. atratus) occurred in scattered areas, and T. sulcifrons was numerous in the southern part of the "Delta". EAR TICK (Otobius megnini) from the ear of a mule was received from a veterinarian in Hinds County. The mule was probably imported from a western state.

General Insects: The ANT , Crematogaster lineolata, was reported to destroy termite workers in Jackson County. In April young and adult Gastrophysa cyanea were reported to be destroying all the dock plants (Rumex spp.) in pastures of Oktibbeha County. In August FIELD CRICKET (Acheta assimilis) were very numerous about lights in towns in North Mississippi. WHITE-FRINGED BEETLES (Graphognathus spp.) were found in several new localities. One was a potato field in Forrest County in which 25 percent of the crop was damaged in April. In June new infestations were found in Jasper and Wilkinson Counties, and in July in Attala and Leake Counties; and in Scott County in August. Specimens previously found in Clarke and Smith Counties were identified in October as Graphognathus peregrinus.

RHODE ISLAND

Summarized from Annual Report
of M. C. Shurtleff

Serious pests of apple included PLUM CURCULIO, CODLING MOTH, APPLE MAGGOT, GREEN and ROSY APHIDS, and EUROPEAN RED MITE. Maggot flies emerged over an unusually long period of time and most growers stopped spraying too early to effect the best control. Mite injury was severe in many orchards. Apple pests of minor importance were bud moth, yellow mite, and tarnished plant bugs. Only a few peaches are grown in Rhode Island but important insect pests of those few were PLUM CURCULIO and ORIENTAL FRUIT MOTH.

Significant vegetable pests of the year included cabbage maggot, corn earworm, flea beetles, aphids, asparagus beetle, cutworms, Mexican bean beetle, cucumber beetle, squash bug, cabbageworms, leaf hoppers, plant bugs, mites, Japanese beetle, blister beetles, and tomatoworm. Most important insect pests of potato were APHIDS and FLEA BEETLES.

Insects and diseases associated with ornamentals have become very important in Rhode Island. Among the insects reported in damaging numbers in 1953 were the elm leaf beetle, oak twig pruner, willow leaf beetle, maple gall midge, a variety of aphids, box elder bug, scale insects, turf insects (Japanese beetle and other grubs), leaf miners, ants, earwigs, wood borers, termites, lace bugs, mites, and spruce gall aphid. JAPANESE BEETLE injury was severe in many areas of the State and was the worst in ten years in some areas. Dutch elm disease, which is spread by insects, was definitely on the increase, there being found approximately 1000 infested trees in 1953 as compared with only 300 in 1952.

Household pests reported during 1953 included elm leaf beetle, box elder bug, carpet beetles, clothes moths, ants, meal moths, cockroaches, silverfish, wasps and bees, powder post beetles, termites, wood borers, and earwigs.

